Alberta

Demographic Spotlight

December 2011

RECENT DEMOGRAPHIC TRENDS IN ALBERTA'S ECONOMIC REGIONS

INTRODUCTION

Alberta's population has expanded significantly over the past few decades. Since 1980, Alberta's total population has grown from about 2.2 million to over 3.7 million in 2010, yielding an average annual growth rate of 1.8%. This was the highest average growth rate among provinces and more than 60% above the national average of 1.1%. However, Alberta's growth was not evenly distributed among the eight economic regions of the province. This report will examine the recent demographic trends in these eight regions with the aim of indentifying the driving factors (natural increase or migration) behind each region's population growth.

OVERVIEW

- ***Each economic region varies in its economic structure and reliance on certain industries.***
- ***Major urban centers such as Calgary and Edmonton account for almost 70% of Alberta's total population.***

According to Statistics Canada, an economic region is a geographical unit generally composed of several census divisions (CDs) within a province for analysis of regional economic activity[1]. Currently Alberta is divided into eight economic regions. **Table 1** provides a brief description of each economic region and the corresponding census division(s) that it covers, while **Figure 1** shows a map of their geographic locations within the province.

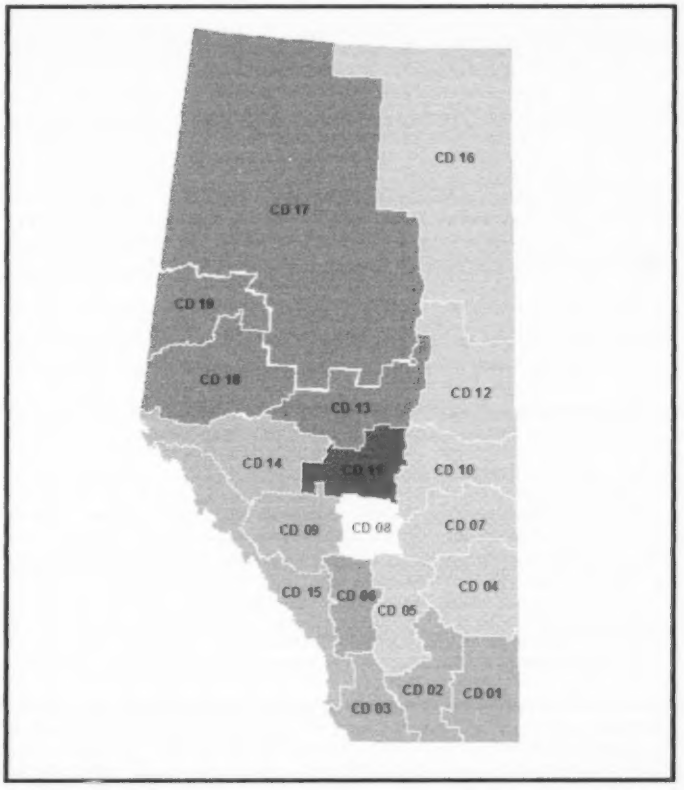
Economic/industry structure is one of the criteria used to group CDs to form an economic region; therefore, the structure tends to be similar within the same region, but somewhat different across different regions. **Table 2** shows the top three employment sectors in each region for the past 15 years. As presented in the table, despite the fact that the trade industry (including wholesale trade and retail

Table 1: Alberta's Economic Regions and Corresponding Census Division(s)

Economic Regions	Census Division(s)
Lethbridge – Medicine Hat **(LM)**	1, 2,3
Camrose – Drumheller **(CD)**	4, 5, 7, 10
Calgary **(CA)**	6
Banff – Jasper – Rocky Mountain House **(BJR)**	9, 14, 15
Red Deer **(RD)**	8
Edmonton **(ED)**	11
Athabasca – Grande Prairie – Peace River **(AGP)**	13, 17, 18, 19
Wood Buffalo – Cold Lake **(WC)**	12, 16

Source: Statistics Canada

Figure 1: A Map of Alberta's Economic Regions



Source: Alberta Finance

[1] Guide to the Labour Force Survey

trade sectors) was the largest employer in most regions, it is clear that the regions vary in their reliance on certain sectors. For instance, one in five workers in Wood Buffalo-Cold Lake worked in the forestry, mining, oil and gas industry, largely due to the strong presence of the oil sands industry in this area. The agriculture sector employed the highest proportion of people in Camrose-Drumheller, while Banff-Jasper-Rocky Mountain House relied most heavily on the accommodation and food service industry due to the important role of tourism in this region. For large urban centers such as Calgary and Edmonton, over three quarters of their employment came from the service-producing industries, such as the trade industry and the health care and social assistance industry.

As of July 1st, 2010, Alberta's total population was estimated to be over 3.7 million (**Table 3**). Of the eight economic regions, Calgary (CA) and Edmonton (ED) accounted for almost 70% of the province's total population, each with a population of more than 1 million. The Banff-Jasper-Rocky Mountain House (BJR) region had the smallest population of 90,200, about 2.4% of the provincial total.

In terms of geographic area, the Athabasca-Grande Prairie-Peace River (AGP) region is the largest with an area of over 270,000 km^2 (**Table 3**). However, because of its relatively small population, this region also had the lowest population density in the province, about 1.0 person per km^2 in 2010. Wood Buffalo-Cold Lake (WC) region was the second-least populated region in Alberta, with a density of 1.1 people per km^2. As expected, the two major urban centers, Calgary and Edmonton, are the most densely populated areas. Calgary's population density stood at 105.8 people per km^2 in 2010, 18 times the provincial average of 5.8; while Edmonton's population density was 13 times the provincial average at 77.3 people per km^2 during the same period.

Table 2: Top Three Industries* by Employment, 1996-2010 Average Share

Economic Regions	First	Second	Third
Alberta	Trade **(15.2%)**	Health Care and Social Assistance **(9.5%)**	Construction **(8.6%)**
Lethbridge – Medicine Hat **(LM)**	Trade **(15.5%)**	Health Care and Social Assistance **(10.5%)**	Agriculture **(10.0%)**
Camrose – Drumheller **(CD)**	Agriculture **(18.1%)**	Trade **(14.3%)**	Health Care and Social Assistance **(9.3%)**
Calgary **(CA)**	Trade **(14.6%)**	Professional, Scientific and Technical Services **(10.4%)**	Health Care and Social Assistance **(8.7%)**
Banff – Jasper – Rocky Mountain House **(BJR)**	Accommodation and Food Service **(17.4%)**	Trade **(12.7%)**	Forestry, Fishing, Mining, Quarrying, Oil and Gas **(11.4%)**
Red Deer **(RD)**	Trade **(15.6%)**	Health Care and Social Assistance **(11.5%)**	Agriculture **(9.2%)**
Edmonton **(ED)**	Trade **(16.4%)**	Health Care and Social Assistance **(10.6%)**	Manufacturing **(8.8%)**
Athabasca – Grande Prairie – Peace River **(AGP)**	Trade **(15.3%)**	Forestry, Fishing, Mining, Quarrying, Oil and Gas **(10.6%)**	Agriculture **(9.1%)**
Wood Buffalo – Cold Lake **(WC)**	Forestry, Fishing, Mining, Quarrying, Oil and Gas **(20.7%)**	Trade **(13.7%)**	Construction **(10.9%)**

** According to the North American Industry Classification System (NAICS)*

Sources: Statistics Canada and Alberta Finance

Table 3: Total Population by Economic Regions, 2010

Economic Regions	Total Population	Provincial Share (%)	Area (km^2)	Population Density (People/ km^2)
Alberta	3,720,946	100	640,045	5.8
Lethbridge – Medicine Hat **(LM)**	280,417	7.5	52,052	5.4
Camrose – Drumheller **(CD)**	201,888	5.4	77,903	2.6
Calgary **(CA)**	1,338,241	36.0	12,645	105.8
Banff – Jasper – Rocky Mountain House **(BJR)**	90,168	2.4	74,285	1.2
Red Deer **(RD)**	196,859	5.3	9,909	19.9
Edmonton **(ED)**	1,218,447	32.7	15,754	77.3
Athabasca – Grande Prairie – Peace River **(AGP)**	259,799	7.0	270,181	1.0
Wood Buffalo – Cold Lake **(WC)**	135,127	3.6	127,314	1.1

Source: Statistics Canada

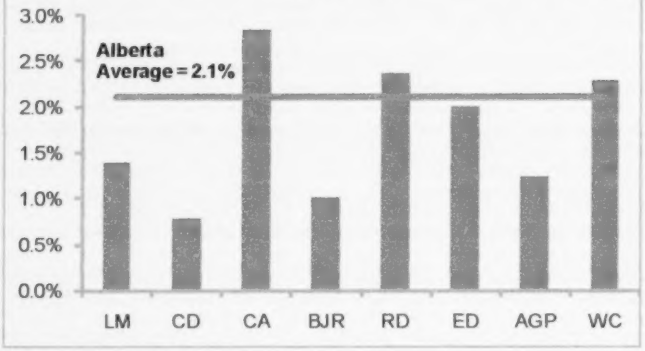
TOTAL POPULATION GROWTH

- ***Population growth varied significantly among economic regions.***
- ***Over three-quarters (77%) of Alberta's population increase occurred in Calgary and Edmonton.***

Since 1996, the year that demographic data became available at the economic region level, Alberta's total population has grown at an average annual rate of 2.1%, more than double the national average of 1.0% (**Figure 2**). Growth, however, was not evenly distributed among the eight economic regions. Calgary has seen the fastest population growth, with its total population expanding at an average annual rate of 2.8%. Red Deer (2.4%) was second, followed by the Wood Buffalo-Cold Lake region (2.3%). The other five economic regions all experienced population growth below the provincial average rate. In particular, the Camrose-Drumheller region had the lowest growth rate at 0.8%, followed by Banff-Jasper-Rocky Mountain House (1.0%).

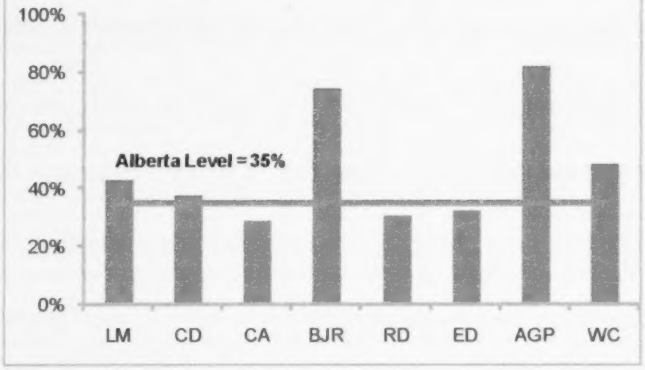
Over the past 15 years, Alberta's population has grown by nearly 1 million, or at an annual rate of 2.1%. The two major urban centers, Calgary and Edmonton, accounted for more than 77% of this growth (above its 67% share of the population over the same period). Although the population of Wood Buffalo-Cold Lake region grew quite rapidly (average annual rate of 2.3%), it only accounted for 3.9%, or about 37,000 people, of the province's total population growth over this period.

Figure 2: Average Annual Population Growth, 1996-2010



Source: Statistics Canada

Figure 3: Contribution of Natural Increase to Population Growth, 1996-2010



Source: Statistics Canada

COMPONENTS OF POPULATION GROWTH

Natural Increase

- ***Since 1996, natural increase has not been the main driver of population growth in most of Alberta's economic regions, except for the Athabasca – Grande Prairie – Peace River region and the Banff – Jasper – Rocky Mountain House region. The majority of Alberta's population growth has been derived from migration.***

Natural increase, i.e. births minus deaths, has been rising in Alberta in recent years. In 2010, Alberta reported a natural increase of about 31,000 people, the largest in 26 years and over 50% higher than the 20,600 level registered in 1997. The annual contribution to total population growth from natural increase, however, has remained under 41% over each of the past 15 years, with the sole exception of 2010, when Alberta experienced a significant reduction in migration inflows. Overall, natural increase accounted for 35% of the province's total population growth between 1996 and 2010, while migration accounted for the other 65%.

Meanwhile, natural increase has been the largest driver of growth in the Athabasca-Grande Prairie-Peace River and Banff-Jasper-Rocky Mountain House regions, accounting for over 80% and 74%, respectively, of their total population increases between 1996 and 2010 (**Figure 3**). Natural increase made the least contribution to total population growth in Calgary (29%), Red Deer (31%) and Edmonton (33%). The next two sections will present more details on the two components of natural increase, births and deaths.

Birth

- ***The number of live births in Alberta has increased significantly in recent years, due to rising fertility rates.***
- ***Women in major urban areas tend to have fewer babies compared to those living in rural areas.***

Total Births

After a 20-year-long decline in the 1980s and 1990s (**Figure 4**), the total number of live births to Albertans turned higher in the early 2000s and has picked up since then. An estimated record high of almost 53,000 live births was reported for Alberta in 2010.

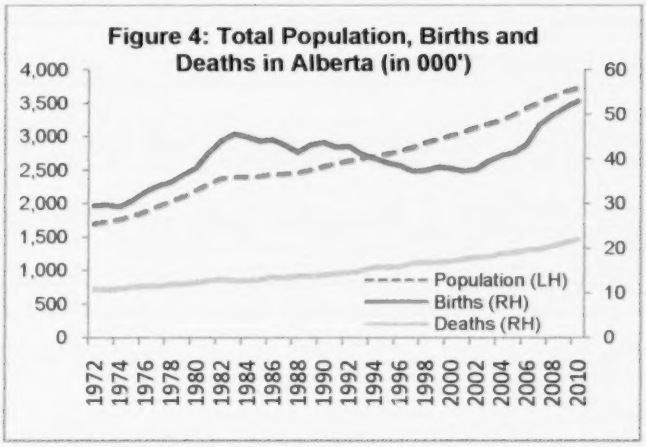
Between 1996 and 2010, more than 591,000 babies were born in Alberta. Despite accounting for almost 70% of Alberta's total population, Calgary and Edmonton reported just 65% of the province's total live births during this period due to lower fertility rates. In contrast, high fertility rate areas such as the Athabasca–Grande Prairie–Peace River region, although only accounting for about 7% of the province's total population, produced 9% of its total births during the same period.

Total Fertility Rate

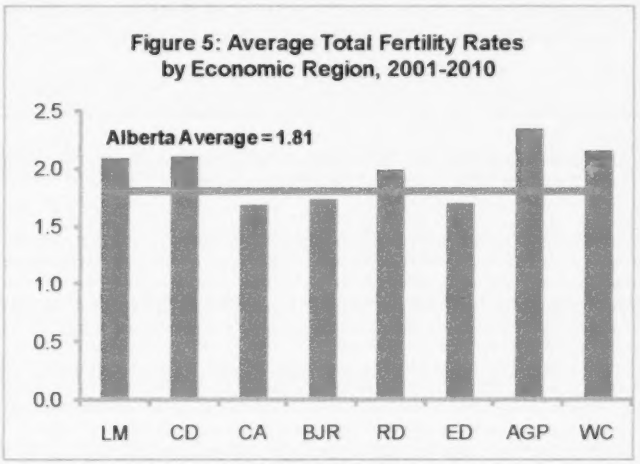
The total fertility rate (TFR) represents the average number of children that a woman would have if the current age-specific fertility rates prevailed over her reproductive years. Alberta's TFR was on a downward trend from the early 1990s and hit a low of 1.67 per childbearing age woman in 2001. The trend was subsequently reversed, as the TFR rose more than 16% to 1.94 in 2010, even though it was still below the replacement level[2] of 2.1.

Similarly, all of the economic regions have experienced a rising TFR in recent years. Between 1996 and 2010, the largest increase (17%) was recorded in the Athabasca-Grande Prairie-Peace River region, while the Wood Buffalo-Cold Lake region had the lowest increase (6%). The two major urban centers, Calgary and Edmonton, had the lowest TFRs in the province. Their 10-year average TFRs were 1.67 and 1.68, respectively, 7% lower than the provincial average of 1.81 (**Figure 5**). This may be partly explained by the fact that females in cities have been postponing pregnancy, possibly limiting their family sizes in order to enjoy the greater range of educational and career opportunities in these regions.

[2] Replacement level is the level of TFR at which a population is replacing itself, so it will not increase or decrease.



Source: Statistics Canada



Sources:Statistics Canada and Alberta Finance

Five of the economic regions had a 10-year average TFRs above the provincial average. In particular, the Athabasca-Grande Prairie-Peace River region had the highest rate at 2.35. This may be attributable, at least in part, to the relatively large Aboriginal population in this area, as studies show that Aboriginal people tend to have relatively high fertility rates.

Death

- ***As expected, Alberta regions with older demographics experienced higher death rates.***
- ***Alberta's urban regions have, on average, longer life expectancy.***

Total Deaths

As Alberta's population expands and ages, so does the number of deaths. In 2010, Alberta reported over 22,000 deaths, more than double the 10,800 deaths registered in 1972 (**Figure 4**). Unsurprisingly, areas with younger age

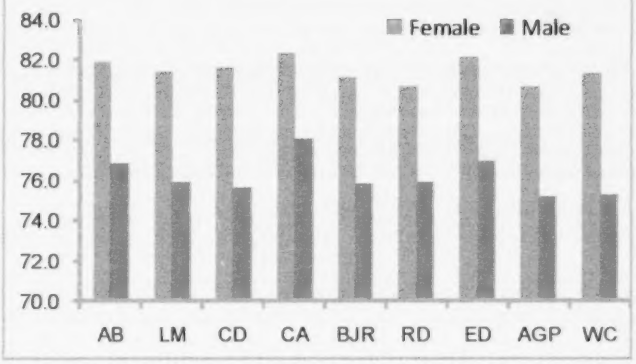
structures tend to have fewer deaths. For instance, although Calgary and Edmonton accounted for almost 70% of the province's population, they only accounted for 62% of its 260,000 deaths reported over the past 15 years. This was partly due to their younger age structures. In contrast, Camrose-Drumheller accounted for only about 5% of Albertans, but had more than 9% of the province's deaths during that period. This was because those aged 65+ made up almost 15% of the region's total population, compared to the provincial average of 10%.

Life Expectancy at Birth

Life expectancy at birth is defined as the number of years that a newborn baby is expected to live given the mortality structure in a given year. In general, life expectancy at birth is higher for females than males, although the gap has been narrowing over time. Albertans are living longer nowadays, thanks to rising living standards and medical advances. In 2010, a newborn baby girl in Alberta was expected to live for 82.6 years, an increase of 2.1 years from 1990. Meanwhile, the gain for males was even greater, as their life expectancy at birth rose by 3.7 years from 74.1 in 1990 to 77.8 in 2010.

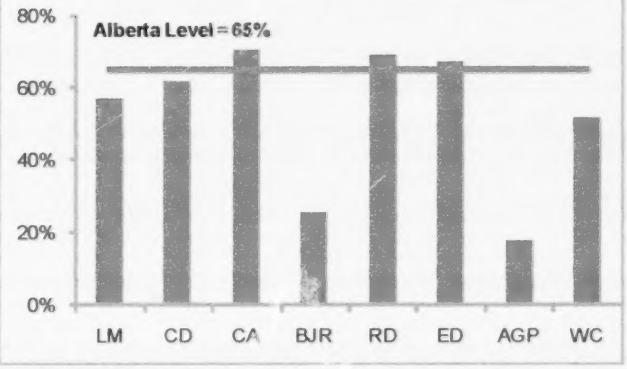
Among economic regions, people in Calgary tended to live the longest, with a 14-year average life expectancy of 82.4 years for females and 78.0 years for males (**Figure 6**). These were higher than the provincial average of 81.9 and 76.9 years, respectively. Edmonton had the second highest life expectancy for both females (82.1 years) and males (76.9 years). Females from Red Deer had the lowest average rate at 80.6 years, while the shortest life expectancy for males (75.2 years) occurred in the Athabasca-Grande Prairie-Peace River region.

Figure 6: Average Life Expectancy (years), 1996-2010



Sources: Statistics Canada and Alberta Finance

Figure 7: Contribution of Net Migration to Population Growth, 1996-2010



Source: Statistics Canada

Migration

- ***Net migration accounted for two thirds of Alberta's population growth over the past one and a half decades.***
- ***A disproportionately large share of migrants settled in Calgary and Edmonton.***

As previously mentioned, migration has contributed almost two thirds of Alberta's total population growth over the past 15 years (**Figure 7**). This was due primarily to the province's strong economic performance and tight labour market conditions during this period. For instance, near the height of the recent boom, Alberta's real economy expanded by 5.8% in 2006, more than double the national average of 2.8%. That same year, the province hit a record low unemployment rate of 3.4 per cent, the lowest rate among provinces and almost three percentage points lower than the national average of 6.3 per cent.

Of the 650,000 net in-migrants (i.e. net interprovincial migration plus immigration plus net non-permanent residents (NPRs)) moving to Alberta over this period, about half came from other provinces. Immigrants contributed 38%, while NPRs accounted for 11%. Meanwhile, the province experienced a net outflow of 80,600 emigrants (i.e. emigrants minus returning emigrants plus net temporary emigrants).

All eight economic regions have experienced net inflows of migrants over the period of 1996-2010. Migrants, however, showed a strong preference for settling in major urban centers, with Calgary and Edmonton accounting for more

than 80% of the province's net migrants (**Table 4**). As a result, net migration was the main population growth driver in these regions. Other regions, which were also heavily dependent on migration for population growth, included Red Deer, Camrose-Drumheller and Lethbridge–Medicine Hat (**Figure 7**).

The following four sections will further discuss the four major components of migration, namely, interprovincial migration, immigration, non-permanent resident and intraprovincial migration.

Interprovincial Migration

- ***One third of Alberta's population growth came from interprovincial migration over the past 15 years.***
- ***In Alberta, interprovincial migrants, on average, have moved to places with strong employment growth, rather than low unemployment rates.***

As shown in **Table 4**, Alberta experienced a net inflow of 326,800 interprovincial migrations between 1996 and 2010. Of the total, more than 63% of interprovincial migrants settled in Calgary and Edmonton.

Table 4: Net Migration by Component and by Economic Region, 1996-2010

Economic Regions	Total Migration	Share (%)	Interprovincial Migration	Share (%)	Immigration	Share (%)
Alberta	569,944	100.0	326,782	100.0	249,627	100.0
Lethbridge – Medicine Hat	31,625	5.5	23,717	7.3	12,415	5.0
Camrose – Drumheller	14,376	2.5	14,227	4.4	3,041	1.2
Calgary	282,911	49.6	131,493	40.2	144,084	57.7
Banff – Jasper – Rocky Mountain House	2,770	0.5	6,561	2.0	2,108	0.8
Red Deer	35,565	6.2	18,696	5.7	5,338	2.1
Edmonton	174,128	30.6	76,241	23.3	74,997	30.0
Athabasca – Grande Prairie – Peace River	9,675	1.7	24,744	7.6	3,933	1.6
Wood Buffalo – Cold Lake	18,894	3.3	31,103	9.5	3,711	1.5
Economic Regions	**NPRs**	**Share (%)**	**Intraprovincial Migration**	**Share (%)**	**Net Emigration***	**Share (%)**
Alberta	74,156	100.0	0	n/a	80,621	100.0
Lethbridge – Medicine Hat	3,929	5.3	-5,580	n/a	2,856	3.5
Camrose – Drumheller	2,189	3.0	-3,205	n/a	1,876	2.3
Calgary	33,207	44.8	17,577	n/a	43,450	53.9
Banff – Jasper – Rocky Mountain House	3,432	4.6	-7,893	n/a	1,438	1.8
Red Deer	2,081	2.8	12,162	n/a	2,712	3.4
Edmonton	25,120	33.9	22,480	n/a	24,710	30.6
Athabasca – Grande Prairie – Peace River	2,137	2.9	-19,145	n/a	1,994	2.5
Wood Buffalo – Cold Lake	2,061	2.8	-16,396	n/a	1,585	2.0

Source: Statistics Canada

Table 5: Interprovincial Migration and Selective Labour Market Statistics, 1996-2010

Economic Regions	Interprovincial Migration	Share (%)	Average Population Shares (%)	Population Growth (%) 1996-2010	Average Unemployment Rate	Employment Growth (%)
Alberta	326,782	100.0	100.0	34.1	5.1	43.5
Lethbridge – Medicine Hat	23,717	7.3	7.9	21.5	4.8	24.5
Camrose – Drumheller	14,227	4.4	5.9	11.6	4.0	17.1
Calgary	131,493	40.2	34.7	48.0	5.0	57.4
Banff – Jasper – Rocky Mountain House	6,561	2.0	2.6	15.0	4.6	20.2
Red Deer	18,696	5.7	5.2	38.9	5.2	50.0
Edmonton	76,241	23.3	32.8	32.1	5.4	43.1
Athabasca – Grande Prairie – Peace River	24,744	7.6	7.4	19.0	5.3	18.8
Wood Buffalo – Cold Lake	31,103	9.5	3.6	37.4	5.2	71.4

Source: Statistics Canada

Interprovincial migration is strongly driven by relative economic performance, particularly labour market conditions. However, the observations from **Table 5** reveal mixed results; regions with low unemployment rates did not necessarily receive a relatively higher share of interprovincial migrants, but areas with strong employment growth did show large influx of migrants coming from other provinces. As indicated in **Table 5**, even though the Camrose-Drumheller region had the lowest average unemployment rates (4.0%) in the province over the past 15 years, it attracted a relatively smaller share of interprovincial migration compared to its population share. This may reflect a lack of employment opportunities to lure a significant increase in new migrants. On the other hand, the Wood Buffalo-Cold Lake region (71.4%) and Calgary (57.4%) have seen the strongest employment growth in Alberta over the same period. As would be expected, they also have received a relatively larger share of the province's interprovincial migrants. In particular, the Wood Buffalo-Cold Lake region accounted for 9.5% of the province's total interprovincial migrants, more than double its average population share of 3.6%. Furthermore, interprovincial migration has contributed almost 85% of this region's total population growth during this period.

Immigration

- ***Almost 90% of the immigrants moving to Alberta chose to settle in Calgary and Edmonton.***

Immigration patterns in Alberta were even more concentrated than interprovincial migration. The two largest urban centers – Calgary and Edmonton – received almost 90% of the province's total immigrants over the last 15 years, with Calgary accounting for 58% of the total and Edmonton accounting for 30%. This was expected since ethnic minority communities tend to be more established in major urban centers. Newcomers from other countries, who are predominantly ethnic minorities, often choose to live close to these communities to facilitate access to economic, linguistic and cultural support that helps them integrate into Canadian society. This tends to form a 'virtuous circle': established communities will attract more newcomers and newcomers will strengthen the existing communities. For instance, according to Census 1996, visible minorities accounted for 15.6% and 13.5%, respectively, of Calgary and Edmonton's total population; by Census 2006, these shares increased to 22.2% and 17.1%, respectively, largely due to the strong inflows of immigrants.

Non-Permanent Residents

- ***Despite the significant increases in recent years, NPRs accounted for only a small share of Alberta's population growth.***

A non-permanent resident refers to an individual who resides in Canada temporarily under one of the several visas or permits. International students, temporary foreign workers and their dependents are the major components of NPRs. Prior to 2005, NPRs accounted for a small proportion of Alberta's total international migration. However, because of pronounced labour shortages in the province, inflows increased significantly in recent years until late 2009, when the global recession resulted in a net outflow of NPRs.

Alberta gained about 74,000 NPRs between 1996 and 2010 (**Table 4**), accounting for less than 8% of the province's total population growth. Of that total net inflow of NPRs, almost 70% occurred during the 2006-2009 period. Calgary received the most net NPRs (44.8% of the total), followed by Edmonton (33.9%) and the Lethbridge-Medicine Hat region (5.3%). Despite oil sands developments, only about 2,000 NPRs elected to move to the Wood Buffalo-Cold Lake region, the lowest level among the province's eight economic regions.

Intraprovincial Migration

- ***Major urban centers such as Edmonton, Calgary and Red Deer drew intraprovincial migrants from other regions.***

Intraprovincial migration is the movement of people within the province of Alberta, in this case, among economic regions. Net intraprovincial migration for Alberta as a whole is equal to zero since the total outflows must equal to the total inflows during a given period. Intraprovincial migration is affected by urbanization, relative economic performance, educational opportunities and access to services. Urban centers, regions with stronger economic growth and with more post-secondary institutes tend to attract more intraprovincial migrants.

Between 1996 and 2010, the major urban centers received the majority of Alberta's net inflow of intraprovincial migrants. Edmonton gained the most, accounting for 43.0% of the total (**Table 4**). Calgary (33.7%) was second, followed by Red Deer (23.3%). The other five economic regions all experienced a net loss of intraprovincial

migrants to other areas, with the Athabasca-Grande Prairie-Peace River region seeing the largest outflow.

Surprisingly, the Wood Buffalo-Cold Lake region accounted for almost a third, or over 16,000 of the province's total net outflows of intraprovincial migrants during this period, even though this area enjoyed rapid economic and employment growth. One potential reason is this region has one of the youngest populations in the province and young people tend to be more mobile. The other possible reason is the relatively high cost of living and, in particular, elevated housing prices in the region. For instance, average resale housing prices in Fort McMurray have jumped more than 630% over the past 15 years and they were the highest in the province between 2001 and 2010. Therefore, unaffordable housing may have encouraged some people to leave the region. Or perhaps those who already owned a home had an incentive to sell, realize the gains, and relocate to another region.

CONCLUSION

Alberta has experienced strong population growth over the past few decades due to its strong economic performance. However, this growth was not evenly distributed among the eight economic regions in the province. Major urban centers such as Calgary experienced the strongest population growth over the past 15 years. Regions with strong economic growth, such as the Wood-Buffalo-Cold Lake area, also have seen population expand rapidly.

Population growth was driven by different factors in different economic regions. Some regions were mainly driven by internal growth (i.e. natural increase), such as the Athabasca – Grande Prairie – Peace River region and the Banff – Jasper – Rocky Mountain House region; while others were largely driven by migration, particularly interprovincial migration, like Calgary and Edmonton. People living in the major urban centers tended to have lower fertility rates, and lived longer. Furthermore, major urban centers proved to be the most popular destinations for all types of migrants.